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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--------------------------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/694,570 | 10/27/2003 | Houtao Zhu | 617-011569-US (PAR) | 3542 |
| 2512 | 7590 | 03/09/2006 | EXAMINER | |
| PERMAN & GREEN 425 POST ROAD FAIRFIELD, CT 06824 | | | TRINH, SONNY | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2687 | |

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,570

Applicant(s)

ZHU, HOUTAO

Examiner

Sonny TRINH

Art Unit

2687

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 3-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-2, 8-10** are rejected under 35 U.S.C. 102(b) as being anticipated by Reed et al. (hereinafter "Reed"; U.S. Patent Number 5,574,466).

Regarding **claim 1**, Reed discloses a method of estimating the operating characteristics of a communication unit in a radio network in which a plurality of such

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communication units can communicate with a plurality of terminals by means of wireless signals and in which the terminals and the communication units are capable of macro-diversity communication whereby a terminal may simultaneously communicate with a plurality of the communication units (abstract, figures 9-14, column 9 line 8 to column 10 line 23), the method comprising:

estimating for the communication unit and neighbouring communication units the propagation characteristics of the wireless signals to and/or from each such communication unit, in a manner specific to that respective communication unit (figures 3-6, column 5 line 40 to column 7 line 14);

determining based on at least the estimated propagation characteristics and the relative locations of the communication unit and the neighbouring communication units a representation of at least one of the macro-diversity gain for the communication unit and the fading margin for the communication unit (figure 12, column 11 lines 6-34).

Regarding **claim 2**, Reed further teaches that the step of estimating the propagation characteristics is performed by means of ray tracing (column 1 lines 12-15, claims 1, 13-14, figure 3, column 5 lines 40-63, column 9 lines 940).

Regarding **claim 8**, Reed further teaches the determining based on the macro-diversity gain for the communication unit and/or the fading margin for the communication unit a configuration for the network, and operating the network according to that configuration (column 3 line 50 to column 4 line 61).

Regarding **claim 9**, Reed further teaches that the configuration includes one or more of a location for the communication unit and an operational parameter of the communication unit (column 11 line 60 to column 13 line 33).

Regarding **claim 10**, Reed further teaches that the operational parameter is a transmission power parameter (figure 6, column 4 lines 32-50, column 5 lines 23-40, column 7).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claim 11** is rejected under 35 U.S.C. 103(a) as being unpatentable over Reed in view of Dent ("Dent"; U.S. Patent Number 6,996,380).

Regarding **claim 11**, Reed discloses the invention as specified in claim 1 but does not explicitly disclose that the radio network is operable according to a CDMA method. However, since CDMA is a well known system and is widely used in the telecommunication system, the Examiner takes Official notice of such well known standard for use within the system of Reed. The primary benefit of using a CDMA over-the-air interface is that communications are conducted over the same radio frequency (RF) band. Transmitting signals over the same RF spectrum provides various benefits including, e.g., an increase in the frequency reuse of a cellular telephone system and

the ability to conduct soft handoff between two or more base stations. Increased frequency reuse allows a greater number of calls to be conducted over a given amount of spectrum.

Allowable Subject Matter

4. **Claims 3-7** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding **claim 3**, the applied references fail to disclose or render obvious the claimed limitations specifically wherein the method of claim 1 further comprising the step of determining a representation of at least one of the effective macro-diversity gain for the communication unit and the fading margin for the communication unit comprises: estimating a dominance area for the communication unit; modelling the delay of signals in the dominance area by means of a delay model; estimating the extent of macrodiversity in the dominance area; determining the said representation based on the said delay model, the estimated extent of macrodiversity and an estimated speed of a terminal relative to the communication units.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonny TRINH whose telephone number is 571-272-7927. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward URBAN can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

2/21/06


SONNY TRINH
PRIMARY EXAMINER